REMARKS

Reconsideration and allowance are respectfully requested.

The specification has been amended to include the section headings as provided in 37 CFR 1.77(b).

Claims 6, 14, 22 and 30 have been amended in order to provide a better understanding of what is meant by the term "fan blade containment analysis" and is referenced at Page 6 lines 27-33.

Independent claims 1, 9, 17 and 25 have been amended in order to further distinguish the present invention from the cited references.

When flying an airplane, it is not uncommon for a fan blade of a jet engine to impact a foreign object such as a bird or debris. When such occasions arise, it is important to know which regions of the fan blade containment casing receive the most stress. Previous systems for identifying these regions of stress have been known to be time consuming and require a user to select views of the high stress regions of interest. It is also known that the interactive demands of the system interfere with the systems performance (Page 2 lines 16-24).

Therefore, the present invention is directed to speeding up the computer's analytical process when identifying regions of interest by utilizing a compression technique. During the compression phase, the present invention's computer system automatically selects a variable with a high rate of change in order to indicate to the user a region of interest. Similarly, the computer system also automatically selects a variable with a low rate of change in order to indicate to the user a region of lesser interest. This alleviates the need for a user to interact with the system and results in a more time efficient process (See Page 6 lines 3-10 & 8-23).

ATSUMI et al. (US 6801665) discloses a method and apparatus of performing image compression wherein a region of interest specified by the user is emphasized so that it is encoded with higher fidelity than the rest of the image (Column 4 lines 55-61). Therefore it is apparent that a user must identify the regions of interest and plug those regions into the system during the beginning,

or from the middle, of the encoding process in order to obtain higher fidelity upon those specified regions. Thus, since the present invention provides a means for selecting a variable from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest, as claimed in currently amended independent claims 1, 9, 17 and 25, the present invention automatically identified the regions of interest without requiring a user to specify those regions. Hence, the process time is much faster and more efficient in the present invention than in ATSUMI et al. It should be noted that ATSUMI et al. fails to teach or disclose an apparatus automatically selecting a variable as well as an apparatus relating the regions of interest to a region with a high rate of change of the variable. Thus, from the reasons mentioned above, the present invention is believed novel and inventive over ATSUMI et al. as claimed in currently amended claims 1, 9, 17 and 25.

The 103 rejections as met in view of ATSUMI et al. in further view of either RANSFORD et al. (US 5490221) or ROMAN (US Pub. 2002/0196848) are believed non-obvious since the claims depend from currently amended claims 1, 9, 17 and 25 which are distinguished from ATSUMI et al. above.

RANSFORD et al. discloses a process for X-ray registration and differencing results in which an X-ray is obtained, usually of bone structure from a person, containing digital imagery data. The person's image is then modeled upon a 3-dimensional model which is registered with a modeled reference image obtained from modeling a standard reference image. The modeled reference image is differenced from the subject's image to form a differenced image which identifies the region of interest i.e. fractures and/or breaks of bones (Column 4 lines 45-61). It should be noted that it would not be obvious to include a 4^{th} dimension, as in the present invention, in RANSFORD et al. since this would substantially increase the quantity of data to process and compress the information which would in turn increase the problem faced by an order of magnitude.

ROMAN discloses a method and apparatus for distinguishing regions of an image, separating the original image into multiple image planes and compressing each separated image plane with a compression method in order to increase transmission speeds. ROMAN separates a video stream into discrete frames that are then 2-dimensional images. ROMAN fails to disclose selecting a variable and automatically selecting regions of interest dependent on the rate of change of that variable. Rather, ROMAN teaches and discloses the apparatus selecting criteria based on color depth or bit depth (Page 3 paragraphs 61-64). Thus, it would not be obvious from ROMAN to apply the data compression technique to the entire data set, as in the present invention, since the data set of ROMAN has differing levels of fidelity in different regions.

Therefore, neither RANSFORD et al. nor ROMAN disclose an apparatus, or method, including means for selecting a variable from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest. Thus, the present invention is believed novel and inventive over ATSUMI et al. in view of either RANSFORD et al. or ROMAN.

Entry of this amendment is solicited, is believed appropriate, and is believed to distinguish the invention from the cited references. For the foregoing reasons, reconsideration and allowance are believed in order and are solicited.

Respectfully submitted,

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